

IN THE DRAWINGS

The attached sheets of drawings includes changes to Figs. 1-10. These sheets, which includes Figs. 1-10, replaces the original sheet including Figs. 1-10.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

The drawings are amended to separate number the figures, as requested in the Office Action. Approval of the amended drawings is respectfully requested.

Claims 26-32 are present in this application, claims 30-32 being added and claims 18-25 being canceled by way of the present amendment. New claims 30-32 are supported by the specification, for example, by the non-limiting disclosure on page 11. No new matter is believed to be added. New claims 30-32 also read on the elected species.

Claims 23-29 are rejected under 35 U.S.C. § 112, second paragraph. Under 35 U.S.C. § 102(b), claims 23, 25 and 29 are rejected over WO 00/53896 (equivalent is U.S. 6,796,866 (Kannefass et al.), claim 26 is rejected over U.S. 6,492,611 (Goto et al.) and U.S. 5,434,380 (Magara et al.). Under 35 U.S.C. § 103(a), claims 23 and 25 are rejected over Kannefass et al. in view of U.S. 6,444,332 (Bettridge); claim 24 is rejected over Kannefass et al. in view of U.S. 6,042,898 (Burns et al.) and over Kannefass et al. in view of Bettridge and Burns; claim 27 is rejected over Goto et al. or Magara et al. in view of Burns et al.; claim 28 is rejected over Goto et al. or Magara et al. in view of JP 5-148615 and Kannefass et al. Claim 26 is provisionally rejected under 35 U.S.C. § 101 over claim 75 of Application Serial No. 10/563,173. Under the doctrine of obviousness-type double patenting, claim 27 is provisionally rejected over claim 75 of Application Serial No. 10/563,173 in view of Burns et al.; claim 28 is rejected over claim 75 of Application Serial No. 10/563,173 in view of JP 5-148615 and Kannefass et al.

Claim 26 is amended to clarify the portion is part of the component. Withdrawal of the §112, second paragraph, rejection is respectfully requested.

With regard to the double patenting rejections, the claims are amended so reconsideration is respectfully requested. The rejections are provisional and no response is

deemed necessary at this time. Also, Application Serial No. 10/563,173 does not have a claim 75. Further, the application is patented (US 7547367) and does not appear to relate to the subject matter of the present application. Clarification is requested. The Office Action may be referring to 10/560,173.

The claims of the present application are directed to a method for surface-treatment of a portion of a component of a turbine engine. The method includes forming a coating including SiC on the portion of by processing the portion as a workpiece of an electric spark machine with a tool electrode of Si in a liquid including alkane hydrocarbons. A Si electrode is easy to manufacture and using a Si electrode in a liquid with alkane hydrocarbons is more cost-effective than using a SiC electrode.

Turning to the prior art rejections, claim 26 is rejected using Goto et al. and Magara et al. Goto et al. discloses scanning a cylindrical electrode 3 over a work W to form a coating, as illustrated in Figs. 3-5. The electrode is made of a metal powder or ceramic powder. Specific examples are mixed TiN and Co powder, a powder containing a carbide such as WC, TiC, TaC, ZrC, SiC and VC, a powder containing a nitride such as TiN and ZrN, or a powder containing a boride such as TiB<sub>2</sub> or ZrB<sub>2</sub> (column 4, lines 15-26). Goto et al. does not disclose a Si electrode. It is noted that Si is not a metal but is a semimetal. Goto et al. also does not specifically disclose a liquid having alkane hydrocarbons, but instead mentions water or oil.

Magara et al. discloses a machining operation using several electrodes, as described in connection with Fig. 9. The electrode is copper, graphite and the like (column 5, lines 20-22). The electrode is submerged in a machining fluid such as kerosene having Si particles 9 (column 5, lines 48-52 and column 6, lines 4-9). Electric discharge causes the particles and electrode to melt and stick to the surface of the workpiece (column 5, lines 10-23). It appears that the coating is formed from the particles and electrode and is, thus, not SiC. Such a

method does not suggest the method of claim 26 where a Si electrode is used or a SiC film is formed. Claim 26 is patentable over a combination of Goto et al. and Magara et al.

Applicants would also like to point out that even if forming a coating with a spark machine is known, one skilled in the art would not be lead to the present invention without recognition that an electric spark process can cause both a reaction of Si with hydrocarbons to form SiC and adhesion of the SiC to a workpiece. The cited references merely teach melting particles and sticking. One must have a reasonable expectation of success and the cited prior art does not provide sufficient basis for this expectation. No expectation of success supports a conclusion of nonobviousness. See *In re Rinehart*, 531 F.2d 1048 (CCPA 1976); *Amgen Inc. vs. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1207-9 (Fed Cir.) *cert. denied*. 502 U.S. 856 (1991).

Also, even if peening is included in the methods taught by Goto et al. and Magara et al., the combined methods would be deficient for the reasons stated above for claim 26. Claim 26 is patentable over Goto et al. or Magara et al. combined with Burns et al.

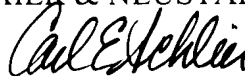
In rejecting claim 28, JP 5-148615 is cited for using an electric spark machine on a turbine blade, and Kannefass et al. is cited for details of the blade. Even if the methods taught by Goto et al. and Magara et al. are applied to a turbine blade, the combined methods would be deficient for the reasons stated above with respect to claim 26. Claim 26 is patentable over Goto et al. or Magara et al. combined with JP 5-148615 and Kannefass et al.

Application No. 10/560,360  
Reply to Office Action of July 21, 2010

It is respectfully submitted that the present application is in condition for allowance,  
and a favorable action to that effect is respectfully requested.

Respectfully submitted,

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